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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/752,431	01/06/2004	Robert Baer	0132.67604	3776

7590 10/20/2005

Patrick G. Burns  
GREER, BURNS & CRAIN, LTD.  
Suite 2500  
300 South Wacker Drive  
Chicago, IL 60606

EXAMINER
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REESE, DAVID C

ART UNIT	PAPER NUMBER
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3677

DATE MAILED: 10/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/752,431

Applicant(s)

BAER ET AL.

Examiner

David C. Reese

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3 and 5-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

This office action is in response to Applicant's amendment filed 9/9/2005.

#### *Status of Claims*

- [1] Claims 1-3, 5-9 are pending.

#### *Claim Rejections - 35 USC § 112*

- [2] Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Though the examiner is aware of the area of which the applicant is trying to structurally depict in the instant claim, the terminology of the claim, however, is ambiguously written to the degree of being indefinite, specifically when referring to the undercut edge being 1) furthest from a top surface of the head at an outside portion of the head and 2) being closer to the top surface inside the outside portion. Perhaps defining what exact part of the undercut edge is in conjunction with specific areas of the head may aid in providing a more definite statement.

#### *Claim Rejections - 35 USC § 103*

- [3] The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- [4] Claims 1, 3, 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Craven, US- 6,666,638, in view of Chen US-6,254,327, and even further in view of Linsey, US-112,935.

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Although the invention is not identically disclosed or described as set forth 35 U.S.C. 102, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a designer having ordinary skill in the art to which said subject matter pertains, the invention is not patentable.

As for Claim 1, Craven teaches of a fastener (300 in Fig. 14) for composite material comprising:

- a shaft (363, 353),

- an undercut head at a first end of the shaft (170 and below in Fig. 5, and from col. 6, line 6, "...the remnants 80 that are cut or extruded from the remnant-producing material 82 may also be captured by the lower neck portion 174, the upper neck portion 172, and the land area 190").

- a point (340) at the other end of the shaft (end of 353),

- a first portion of the shaft (353) adjacent the point (340) being threaded (354), and extending over a portion of the total length of the shaft (363,353),

- a second portion of the shaft (363) adjacent the head not being threaded, said second portion having a plurality of spaced rings (394), the spaced rings (394) reducing the mushrooming of the composite material when the fastener is used in the composite material (from col. 7, beginning with lines 9, "screw captures the remnants that have been extruded onto the surface of the remnant-product material. In use, remnants 80 that are shaved, cut, or otherwise pushed to the surface 83 of the remnant-producing material 82 are captured by the threads 264 of the upper threaded portion 260. Refer now to Fig. 14 that shows a screw...according to another embodiment of the present invention.")

The differences between the claim and Craven are the following: the threads (354) having three radial lobes; and the head having an undercut edge which is inverted in a circular arc towards the head, the undercut edge being furthest from a top surface of the head at an outside portion of the head, the undercut edge being closer to the top surface inside the outside portion. With regard to the former of the two issues above, Chen discloses a fastener similar to that of Craven. In addition, Chen further teaches of a shank with a lower portion formed with spiral triangular threads (see figure 4) with three sharp edges and three pointed tips. It would have been obvious to one of ordinary skill in the art, having the disclosures of Craven and Chen before him at the time the invention was made, to modify the first portion of the shaft adjacent the point being threaded of Craven to include three radial lobes, as in Chen. One would have been motivated to make such a combination because such a configuration of thread structure allows for a screw which can be easily turned into a material such as a piece of hard wood, as taught by Chen in col. 2, beginning with line 24.

With regard to the latter of the two issues above (...head having an undercut edge...") Linsey discloses a fastener similar to that of Craven in view of Chen. In addition, Linsey further teaches of a head (B) at a first end of a shaft, the head (B) having an undercut edge (a) which is inverted in a circular arc towards the head (B), the undercut edge (a) being furthest from a top surface of the head at an outside portion of the head (rightmost part of a), the undercut edge (a) being closer to the top surface inside the outside portion (inside middle of a). It would have been obvious to one of ordinary skill in the art, having the disclosures of Craven, Chen, and Linsey before him at the time the invention was made, to modify the head to incorporate an undercut, as in Linsey. One would have been motivated to make such a combination because such a feature

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prevents the head from pressing the fibers apart and splitting a material, the remainder being left flat and smooth, without the trouble of countersinking, thus providing an example of a self-countersinking head. Examiner also encourages the applicant to review the following, helping to depict that such a feature is extremely well known in the art of fasteners. Dekker, 3,903,784 (Figs. 5 and 7); Place, 2,895,368 (Fig. 1 and 4); Peterka et al, 2,056,688 (Figs. 1,5,8,12); Hobbs, 2,982,166; Maclean, 1,955,924; Twedell, 1,827,628; Campbell et al., 1,820,556; Rich et al., 4,310,272.

Re: Claim 3, Craven discloses wherein said first portion (353) has asymmetrical threads (thread at 340 compared to the thread at 356 in Fig. 14).

Re: Claim 7, Craven discloses comprising three said rings, wherein said rings are equally spaced with respect to each other (390 and the two rings below in Fig. 14).

[5] Claims 2, 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Craven, US-6,666,638, in view of Chen US-6,254,327, and further in view of DeHaitre US-5,516,248.

Although the invention is not identically disclosed or described as set forth 35 U.S.C. 102, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a designer having ordinary skill in the art to which said subject matter pertains, the invention is not patentable.

As for Claim 2, Craven in view of Chen teaches of that from Claim 1, including a shaft with both a first and second portion.

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The difference between the claim and Craven in view of Chen is the claim recites: comprising a knurled portion between said first and second portions. DeHaitre discloses a fastener similar to that of Craven in view of Chen. In addition, DeHaitre further teaches of a knurled section (18) between both a first (16) and second (10) position of a shaft. It would have been obvious to one of ordinary skill in the art, having the disclosures of Craven in view of Chen and DeHaitre before him at the time the invention was made, to modify the fastener of Craven in view of Chen to include a knurled section between both the threaded first portion and the second portion as in DeHaitre. One would have been motivated to make such a combination to help reduce installation time and increase the drive tool life since the knurled section, as stated in col. 6, beginning with line 4, "cuts away fibers which would otherwise engage the screw shank and thereby reduce frictional resistance with resulting optimization of driver torque in driving the screw into the workpieces and seating the head beneath the work surface" as taught by DeHaitre.

Re: Claim 9, DeHaitre discloses comprising a shank slot adjacent said point (42 in Fig. 1, motivation of which can be found in col. 5 of DeHaitre, beginning with line 44).

[6] Claims 5-6, 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Craven, US- 6,666,638, in view of Chen US-6,254,327, and further in view of case law.

Although the invention is not identically disclosed or described as set forth 35 U.S.C. 102, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a designer having ordinary skill in the art to which said subject matter pertains, the invention is not patentable.

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As for Claim 5, Craven in view of Chen teaches:

It would have been an obvious matter of art recognized equivalence to have the rings unequally spaced with respect to each other, as Applicant has not disclosed that it solves any stated problem of the prior art (that is, the applicant has not discussed how the unequal placement of the spaced rings will solve a different problem than that of equally spaced rings such as that of Craven; as applicant even submits an embodiment that incorporates an version where the rings are equally spaced between one another) or is for any particular purpose. It appears that the invention would perform equally well as the invention disclosed by Craven. In addition, it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70. See also, *In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975) (the particular placement of a contact in a conductivity measuring device was held to be an obvious matter of design choice). This specific reasoning can also be applied to that stated in Claims 6 and 8.

Re: Claim 6 (see above).

Re: Claim 8 (see above).

### ***Response to Arguments***

[7] Applicant's arguments filed 9/9/2005 regarding rejections under 35 U.S.C. 103 have been fully considered but they are not persuasive. First and foremost, all arguments are considered moot due to new grounds of rejection. This action is final, even though new art has been submitted, due to the applicant's amendment in Claim 1. Examiner notes applicant's request in the second to last paragraph in the instant arguments. In response, the examiner would like to



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point out that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning, but so long as it takes into account only knowledge which was within level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from appellant's disclosure, reconstruction is proper. *In re McLaughlin* 170 USPQ 209. Further, it has been held that the test for obviousness is not whether the features of one reference may be bodily incorporated into the other to produce the claimed subject matter but simply what the combination of references makes obvious to one of ordinary skill in the pertinent art. *In re Bozek*, 163 USPQ 545 (CCPA 1969).

Lastly, in response to Applicant's statement regarding a possible lack or absence of suggestion to combine the above references (including the new grounds of rejection), the Examiner recognizes that references cannot be arbitrarily combined and that there must be some reason why one skilled in the art would be motivated to make the proposed combination of primary and secondary references. *In re Nomiya*, 184 USPQ 607 (CCPA 1975). However, there is no requirement that a motivation to make the modification be expressly articulated. The test for combining references is what the combination of disclosures taken as a whole would suggest to one of ordinary skill in the art. *In re McLaughlin*, 170 USPQ 209 (CCPA 1971). References are evaluated by what they suggest to one versed in the art, rather than by their specific disclosures. *In re Bozek*, 163 USPQ 545 (CCPA) 1969. In the instant case, such a feature as an undercut is extremely well known to those skilled in the art (please see enclosed reference cited). It would therefore be obvious to include such a feature onto a fastener as such a feature is not novel, and the purpose of such a feature has been used in conjunction with various types of fasteners found saturated throughout the prior art.

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*Conclusion*

[8] Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

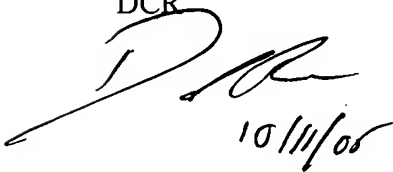
[9] Any inquiry concerning this communication or earlier communications from the examiner should be directed to David C. Reese whose telephone number is (571) 272- 7082. The examiner can normally be reached on 7:30 am - 6:00 pm M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J.J. Swann can be reached at (571) 272-7075. **Please also note the change in the fax phone number to (571) 273-8300 for the organization where this application or proceeding is assigned.**

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sincerely,  
David Reese  
Assistant Examiner  
Art Unit 3677

DCR



10/11/05



ROBERT J. SANDY  
PRIMARY EXAMINER